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**THE KEYSTONE**

# Defender

5 No. 11

STATE COUNCIL OF CIVIL DEFENSE, HARRISBURG, PA.

NOVEMBER, 1956

## THE SURPLUS PROPERTY MEETING

HIGHLIGHT of the Surplus Property meeting held recently in Harrisburg by the State Council of Civil Defense was an address by Governor George M. Leader. Nearly 700 civil defense directors from practically every county of the Commonwealth heard the governor thank them personally for their patience and diligence in the performance of a vital, but often thankless task, undertaken largely in the face of apathy.

Governor Leader hailed the new Surplus Property program as an important step forward and expressed his personal satisfaction in the enactment of the program.

The Governor appeared in the morning of an all-day program held in the Penway Theatre. Following his address civil defense directors were escorted in a tour through a Commonwealth surplus property warehouse, so that, in the words of State Civil Defense Director Dr. Richard Gerstell, "You may view personally the types of equipment which become available." Dr. Gerstell urged directors "use your imagination and use hometown facilities and workshops to fashion usable articles for civil defense from some things which, at first sight, may appear unusable."

Generally, civil defense directors expressed great satisfaction in all they heard and saw at this important Harrisburg meeting. Very few left before the close of the surplus property portion of the program, about 3 P. M.

(Note: Dr. Gerstell afterward brought the changes in GOC policy to the attention of directors. See article in this issue of *Keystone Defender*).

At the time of this meeting (Oct. 30) only two states had surplus property plans approved by the Federal

authorities. These states were Pennsylvania and California.

Other topics under discussion at the meeting were:

(a) Announcement of a series of proposed administrative meetings at State Teachers Colleges, with State Council employees acting as instructors;

(b) State Medical Stockpiles. Dr. Gerstell stated that only 29 of 67 counties have met requirements and claimed available stockpiles. He urged wider participation in this important Commonwealth program.

(c) The new official civil defense uniform for women was discussed (samples of which are in Area offices). No state policy has been formulated with regard to the purchasing and wearing of these uniforms, it was stated.

(d) Dr. Gerstell said that recommendation would be made shortly to the State Council to have civil defense license plates issued to person rather than automobile. He called for better administration of this program in some county civil defense offices.

(e) Need for accurate Enrollment Lists was emphasized. Many civil defense organizations have not yet submitted official lists.

(f) A plan to keep Commonwealth civil defense directors informed on FCDA training courses was announced by Dr. Gerstell. Many county and local directors have been attending such courses at Olney and Battle Creek.

(g) Col. Edwin Feather, State Training Director, discussed proposed Federal and State Radiological Defense courses. He stated that part of the radiological defense equipment eventually slated for county and local training use has been delivered.

## MILITARY ASSISTANCE TO CIVIL DEFENSE

A DEPARTMENT of Defense directive was issued recently, entitled, "Responsibilities for Civil Defense and other domestic emergencies." This document, in turn, was distributed through the medium of a Federal Civil Defense Advisory Bulletin.

The purpose of these documents was to issue a strong and positive statement of the Civil Defense role of the Armed Forces.

It is important that Commonwealth Civil Defense Directors be conversant with the general policies of the Armed Forces with regards to assistance to Civil Defense. Aid from the Armed Forces will only be warranted when the over-ruling demands of humanity compel immediate action to prevent starvation, extreme cruelty, and property loss, or, local resources available to state or municipal authorities are clearly inadequate to cope with the situation.

The DOD directive cites military assistance as complementary to but not a substitute for civilian participation in Civil Defense. The military departments, it emphasizes, shall be prepared to furnish assistance to civil authorities for a limited period in domestic emergencies, utilizing resources not required in the execution of their essential military missions.

(This last sentence is to be noted carefully by Civil Defense Directors inasmuch as during an all-out attack "the execution of their essential military missions" will probably demand all that the military has to offer in the immediate post attack period.)

The responsibility for providing assistance initially to civil authorities, the DOD directive further states, is

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## Enrollment Lists Emphasized

THE State Council of Civil Defense would like again to remind all county and local civil defense directors of the Commonwealth of the importance of preparing accurately and forwarding promptly the "Official List of Duly Enrolled Civil Defense Volunteers."

This seems necessary in view of the fact that, approximately three months following deadline date, many of these directors have not forwarded the reports. This non-compliance is a serious responsibility. It means that failure on the part of these directors may render those civil defense personnel ineligible to receive benefits to which they otherwise would be entitled.

It may be wise to emphasize another point: submission of this list is only part of the story. To be properly enrolled in civil defense in the Commonwealth of Pennsylvania an enrollee must:

a. Have taken the Loyalty Oath, which must be on file in an official Civil Defense Headquarters;

b. Have been issued the official Identification Card, properly authenticated;

c. Be on an Official Enrollment List.

Faulty administration of a civil defense office, therefore, may prove costly. As has been emphasized in recent *Keystone Defender* articles—work hard to improve your administration! Keep records to the best of your ability, and above all, answer official correspondence.

### COMMONWEALTH OF PENNSYLVANIA STATE COUNCIL OF CIVIL DEFENSE

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\* \* \*

DR. RICHARD GERSTELL, *Director*

Free subscriptions to this publication may be obtained by contacting your local civil defense director. Local civil defense directors write to: State Council of Civil Defense, Quakertown, Penna.

## RECOMMENDATIONS OF HOLIFIELD COMMITTEE

THERE has been so much discussion recently about the so-called Holifield Committee Report (Civil Defense For National Survival) that we are presenting here for Commonwealth Civil Defense Directors the specific recommendations of this Committee.

It should be emphasized that these are recommendations and to date, as far as is known, no action has been taken with the exception of point number 5. A "redirection" of the survival program has been ordered as outlined in an article in the September 1956 issue of *The Keystone Defender*.

The exact title of this Committee of the 84th Congress was the Military Operations Subcommittee, a part of the Committee on Government Operations, and headed by Chet Holifield of California.

Specific recommendations follow:

1. Federal civil defense legislation should be redrafted to vest the basic responsibility for civil defense in the Federal Government, with the States and local units of government having an important supporting role.

2. The new legislation should create a permanent Department of Civil Defense, combining the civil defense functions (broadly defined) of the Office of Defense Mobilization and those of the Federal Civil Defense Administration.

3. The Department of Civil Defense should consult with the Department of Defense and be required to formulate a master plan for nationwide civil defense. Plans for each target area should be made and protective measures initiated after careful determination of their respective priority importance to national defense and survival.

4. The master plan for civil defense should be pointed toward the establishment of an integrated nationwide civil defense system based on the key civil defense measure of shelter protection against the blast, heat, and radiation effects of nuclear explosions.

5. Studies under the survival planning contracts should be suspended, pending a reformulation of the criteria for the expenditure of the funds Congress authorized and appropriated for this purpose. A local or regional survival plan study should be concerned only with the adaptation and application of the national plan and of basic studies to a local situation.

6. The Department of Civil Defense should be authorized to finance the construction of shelters in all tar-

get areas, with the cooperation of State and local authorities.

7. The Department of Civil Defense should be authorized to institute all other measures necessary to establish an integrated nationwide civil defense system, and to utilize toward this end such available resources and facilities of the Federal departments and agencies as are necessary.

8. The Department of Civil Defense should be authorized to strengthen State and local civil defense organizations by contributing equipment, supplies and funds for administration, training, stockpiles and other necessary civil defense uses, subject to the supervision, inspection and approval, by the Secretary of Civil Defense, of the civil defense programs of State and local authorities.

9. The Secretary of Defense, in consultation with the Secretary of Civil Defense, should establish and implement an effective program of training active and reserve military personnel in civil defense duties as a defined part of regular military training.

10. The Secretary of Civil Defense, in behalf of the President, should have defined statutory powers to act in an emergency and to mobilize all civilian resources for minimizing the effects of enemy-caused disaster upon the national economy and the people of the United States.

11. The Secretary of Civil Defense, in behalf of the President, should have statutory authority to carry out plans and operations in peacetime, under preattack situations, particularly before declarations of emergency have been made, in order to minimize the effects of enemy-caused disaster upon the national economy and the people of the United States.

12. The role of the military forces in civil defense should be clearly defined. State and local officials should be fully informed as to the terms and conditions under which military assistance to civil defense authorities will be rendered in the event of widespread disaster and the breakdown of civil government.

13. The studies of martial law conducted by the Attorney General, the Department of the Army, and other Federal agencies should be made public promptly upon completion, to assist the Congress and the public in understanding the contemplated role of the military forces in civil defense.

(Complete details in House Report 2946, 84th Congress, 2nd Session.)



# CIVIL DEFENSE FIRE-FIGHTING

ONE POINT of agreement between the fire experts who have studied great conflagrations and fire-storms is that ordinary fire fighting methods will be of very little value. Fortunately, for ideas about how fire departments can deal with large city fires we can rely upon history instead of speculation. At least we can get a pretty good idea of what is likely to work and what is hopeless from a practical point of view, without having to undergo the bitter experiences personally. The details of how German and Japanese repeatedly tried various methods—without much success—to curb the great fires they faced are well documented. Their fire fighters were invariably overwhelmed and sometimes were not even able to approach close enough to the fire to even make a start at fighting it.

Photographs from Germany are vivid reminders of how much more vast are the problems of fire fighting in wartime than have yet been met in this country. In particular, one scene of a dismal corridor of rubble between the masonry wreckage of once-substantial buildings comes to mind. It was once the Steindamm, a main street in Hamburg. As the fire developed, this street was described as being "... a flue filled with flames and flying burning brands." Protruding through the deep rubble near the center of the street are the barely recognizable remains of a half dozen fire trucks—the remnants of a fire fighting company which was trapped and burned when it tried to fight a mass fire as though it were a concentrated individual fire.

It is to the concept of containing impossible fires within a perimeter and fighting individual fires outside that perimeter that our attention must be directed. A premature decision by officers who have never faced a huge fire may commit fire forces to a hopeless task.

German experts have emphasized the need for a comprehensive plan for action against large fires. They believe that such plans can only be based on direct observation of the burning areas by experienced fire engineers. To be effective, a reconnaissance must be made within the first hour—probably by light aircraft or helicopters reporting by radio to a command post where the incoming reports can be assembled and plotted and fire fighting operations directed.

The object of this survey is to determine where the fire can be contained

within existing firebreaks (rivers, hills, wide streets, parks) and where it can be fought with some chance of success. Inside this perimeter, the fires will be allowed to rage—the whole area will be written off. Outside it, fires can be fought on an individual basis. It is worth noting that the upwind and crosswind extent of serious fallout, even from our largest weapons, is likely to be small enough so that there may be relatively little radiological danger beyond the fire perimeter in those directions.

Only immediate reconnaissance is likely to return much information since large amounts of smoke are rapidly generated which obscure the view. At Hamburg, full daylight did not prevail until thirty hours after the fires started despite the fact that skies were sunny and clear beyond the fire zone. Insufficient attention seems to have been given to the fact that fire fighting operations may have to be carried out in darkness—either at night or because of great clouds of dust and smoke. This same dust and smoke plus burning brands is a considerable hazard to the firemen personally and a man blinded by inflamed eyes is quite helpless. Goggles and helmets which protect the eyes, neck and ears are recommended by the German chiefs.

It is easier to see what not to do than to recommend specific action and in this we can let the experience of others guide us. Hans Brunswick, one of the officers of the Hamburg fire department, says, "It is wrong to assume that in the case of a fire in a city a 'fire front' will come rolling along as it does in forest fires and that it can be stopped by erecting an obstacle in the form of a water curtain." As a first step in planning to fight wartime fires, it is necessary to get rid of the notion that fighting fires is a matter of setting up these water curtains with large hose streams. That method was tried and found impractical.

Chief Brunswick described one large area of fire with an eleven mile perimeter; had nearby water been available it could have been surrounded by about 130 pumper fire trucks to the mile—over 1,400 pieces of equipment. If the water had to be brought by relays the number of pumpers would have to be multiplied several times. Even these figures are regarded by Horatio Bond as being "... much too thin for heavy-stream fire fighting operations." Water will play its usual important part—but not as a means of

frontal attack on a wall of flame under possible fire-storm conditions.

The problem of moving water long distances to the fire perimeter was solved simply in Germany by relaying it from pumper to pumper. Each delivered water to a tank or sump in which the next pumper put its suction hose. This crude technique proved to be important since serious damage was sustained by the municipal water main system which was ordinarily used for fire fighting. At Hiroshima thousands of domestic water pipes were broken when the blast wave sheared buildings from their foundations. This promptly and completely drained all the water from the street mains leaving the fire fighters quite helpless.

The British anticipated this difficulty and embarked on a rather elaborate program of providing "static" water—water permanently kept ready in still tanks in the streets and in concrete tanks built beneath the streets. The Germans also recognized the need for such a reserve water supply, and cities which could spare concrete constructed reservoirs of 50,000 to 500,000 gallon capacity. In a few places permanent pipe lines from rivers and canals were laid solely for fire-fighting purposes. Other cities kept supplies of quick-coupling steel pipe ready for emergency use—partly to reduce frictional loss but mainly because of its greater resistance to damage than fire hose.

Not the least of the fireman's troubles will be caused by the rubble, fallen trees and tangles of wire which are sure to litter the streets and make them impassable. Ordinary fire vehicles will probably be immobilized by relatively light debris which can be expected to extend to considerable distances from ground zero but all-wheel drive, short wheel-base machines with high ground clearance can traverse rough ground and light rubble. Probably it will be necessary to have bulldozers reopen streets, dam up streams and tow trucks over rough ground so the problem of locating them and their operators immediately after an attack and bringing them to bear on the problem of keeping fire equipment mobile are an important part of fire planning. Escape routes must be kept open so that if the fire gets out of control or substantial fallout begins, fire fighters can leave rapidly. Access for fire trucks arriving from outlying cities and districts must also be pro-

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## Radar Defense Lines

A REPORT published in the CANADA CIVIL DEFENSE BULLETIN, September 1956, summarizes the present state of the North American radar warning system. The article follows:

"The Minister of Defence Production, C. D. Howe, announced in July that the North American radar warning system would go into operation in January, 1957. He informed the House of Commons that the 3,000 mile Mid-Canada line along the 55th Parallel is scheduled to be put into service on January 1st. It was also reported that the \$400,000,000 Distant Early Warning line in the Canadian Arctic would also go into operation at the same time.

"The Mid-Canada and the DEW lines are two of the three chief components of the North American radar network. The Pinetree chain, roughly on the 49th Parallel, which controls the operations of jet interceptor planes, has been in operation for two years. The three lines would act together in the event of an enemy attack from across the Arctic regions. The DEW line would give first warning to both Canada and the U. S. and enable retaliatory and defensive action to be taken. The Mid-Canada line would pin down the direction of the enemy attack and supply information on the number of planes involved. It would also prepare the interceptors to meet the attack. The Pinetree chain would track the enemy bombers and direct the interceptors to them."

## Control Center Visit

To GIVE rural county civil defense control center workers a better idea of metropolitan operations, a visit by Monroe County civil defense telephone operators was made to the Main Control center, Philadelphia. Col. Talley D. Joiner, Deputy Director for Philadelphia, was host to the group.

The Monroe workers were "very much impressed and pleased" by Philadelphia facilities. The trip was arranged by Eastern Area Headquarters, State Council of Civil Defense.

Recently the United States Atomic Energy Commission revealed officially that the recent megaton-range explosions during Operation Red Wing in the South Pacific were part of the study to reduce fallout. They have announced, tersely, "this effort was successful."

Also subject to research by AEC was the effect of rainfall on the problem of fallout. The announcement came that "there is valid reason to believe that world-wide fallout is small in the absence of precipitation."

## GROUND OBSERVER CHANGES

RECENTLY Dr. Richard Gerstell, State Civil Defense Director, advised county and local civil defense directors of important changes in U.S. Air Force GOC policy. Substantially, he said:

"I have recently attended a meeting in Battle Creek of the National Association of State Civil Defense Directors. During the meeting we were briefed by the Air Force on some of the operational aspects of the Ground Observer Corps.

"When Operation Skywatch was set up in 1952, the Air Force informed us that as advances were made in our defensive system, operational changes might be necessary in the Ground Observer Corps.

"The advent of the long-range jet bomber of the Russians, with its capability of out-flanking our radar and Ground Observer Corps detection system, brought about the activation of most of the Ground Observer Corps throughout the United States and the establishment of the interior Air Defense Identification Zones.

"Considerable progress has been made with the installation and operation of our northern radar lines and the establishment of our off-shore radars such as those installed on airplanes, picket-ships, and Texas Towers. Therefore, the Air Force now feels that some of the interior filter center areas can be placed in ready reserve, providing they can arrange to man all the observation posts in 15 to 20 minutes after being alerted. Albany and Harrisburg are among those designated to be placed in reserve.

"The assignment of these filter centers into ready reserve places a greater load on those areas along the border. If low-flying aircraft are to be detected, it is the border observation posts who will accomplish this.

"Syracuse, Buffalo, New Haven and Trenton are the filter center areas to remain on active duty in our section of the country.

"When properly prepared for ready reserve, the Albany and Harrisburg filter centers and their observation posts will be placed in ready reserve.

"These filter centers will have a military controller on duty 24 hours a day, as well as their usual military cadres and training teams. Recruiting and training of volunteers for filter center and observation post duties will be continued and periodic exercises will be conducted. The observation posts and their equipment, such as telephones, lights and heating equipment, will be maintained in good repair. Observers who live near the observation posts should be detailed to man the post when the alert is received, thereby shortening the time necessary to get the observation post into action.

"It is of utmost importance that the highest possible degree of operational capability be maintained in those filter center areas that continue on a 24 hour basis.

"The Council has been deeply appreciative of the generous service rendered by the volunteers of the Ground Observer Corps, and we are sure we will continue."

## THOSE MYSTERIOUS "RAYS"—AND WHAT THEY ARE

*(Radiation facts, simply stated, are herewith presented to Commonwealth Civil Defense Directors. Source: Atomic Energy Commission.)*

LIGHT is radiation; heat is radiation; so are radio waves. The word radiation as used in the atomic energy industry, however, applies to one particular kind—nuclear radiation. It is called "nuclear" radiation because it comes from the core, or the nucleus, of atoms.

Atoms are the smallest possible units of chemical elements. The smallest speck of coal that can be seen through a good optical microscope contains something like a billion atoms of carbon and other elements. Each one of these billion atoms has a nucleus which is about 10,000 times smaller than the whole atom. Small as the nucleus is, it is made up in turn of

even smaller particles powerfully held together. A carbon atom, for example, ordinarily has 12 particles in its nucleus. Carbon of this kind is stable, as most natural elements are, because the tiny particles in its nucleus cling together indefinitely (so far as is known, forever). But some natural elements (like radium) are not stable. The particles in the nuclei of unstable atoms do not cling together indefinitely. Such a nucleus can throw off one or more of its tiny particles, or a ray, or both. The particles and rays thrown off by unstable atomic nuclei are nuclear radiation. Atoms that give off nuclear radiation are called radioactive.

There are four kinds of nuclear radiation with which the atomic energy industry deals on a large scale. These

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## Military Assistance

(Continued from page 1)

that of the military service having available resources nearest the afflicted area. The primary responsibility for coordinating the planning and rendering of military assistance to civil authorities, in domestic emergencies, is that of the Department of the Army. The Departments of the Navy and the Air Force will be responsible for rendering such assistance, consistent with the requirements of their primary mission, as may be deemed necessary by the Zone of the Interior Army commander.

Civil Defense Directors are also reminded that a military commander in making his resources available is subject to no authority other than that of his superiors in the military chain of command.

(Detailed information on this subject is found in FCDA Advisory Bulletin No. 116, Supplement No. 1, dated September 20, 1956.)

## THOSE RAYS

(Continued from preceding page)

are "alpha particles", "beta particles", "gamma rays" and "neutrons." Alpha particles are thrown off by radioactive elements such as uranium and plutonium. Tiny though they are—a hundred billion billion of them would be no larger than the head of a pin—these electrically charged particles are the largest natural radiation particles found in the atomic energy program. They have very little power of penetration since a few inches of air or even a sheet of paper will stop them.

Beta particles are much smaller than alpha particles (about 1/7200 as large in mass) and they carry an electrical charge. They are more penetrating than alphas, can travel several yards through air and penetrate up to a third of an inch of tissue.

Gamma rays are not particles like alphas and betas, but are waves of energy such as light or radio waves. They can travel hundreds of feet through air and penetrate for many inches through almost anything solid (thick lead is an effective barrier against them). They are generated on a large scale in nuclear reactors.

Neutrons are nuclear particles about one-fourth the size of the alpha particle. Because they have no electrical charge they can travel many feet through solid matter and hundreds of feet through the air, or can penetrate deeply into a person's body.

Overexposure to all kinds of nuclear

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## AT SURPLUS PROPERTY MEETING



Governor George M. Leader addressing Commonwealth civil defense directors at the morning session of the Surplus Property meeting, held in the Penway Theatre, Harrisburg. Following the Governor's address Federal officials gave a historical account of the program and explained how Government property becomes surplus. The program begins in the Commonwealth on Nov. 19, a date "pulled from a grab-bag" by a local civil defense director.



Three leaders in civil defense at the Harrisburg Surplus Property meeting. Left to right, Gov. George M. Leader, Dr. Richard Gerstell, State Civil Defense Director and Col. Lloyd Morris, Blair-Altoona Civil Defense Director.

Since the Harrisburg meeting an investigation by the State Council of Civil Defense has revealed many incorrect listings of local civil defense directors. This will result in embarrassment since directors no longer connected with an organization may have authority to sign for and pick up surplus property. Correction of listings is important—at an early date!



## ACTIVITIES "IN THE FIELD"



*When the Mummers' Association held a parade in Hazleton (Luzerne County) a Civil Defense float, pictured above, was entered by Hazleton Civil Defense. William Young, civil defense director for that city, was in charge of the participation.*



*Dr. Hobart N. Owens (center, above) is chief of the Medical Division, Wayne County Civil Defense. With him (above, reading in the usual direction) are Dr. Harry D. Propst, Chief of Administrative Service and superintendent of Wayne Memorial Hospital, Honesdale; Miss Eleanor Wenders, Chief of Nursing Section and President of the Wayne-Pike Nurses' Association; Mrs. Beatrice Bullock, Chief of Public Health Nursing, and E. Theodore Lilholt, Wayne County Civil Defense Director.*

## THOSE RAYS

*(Continued from preceding page)*

radiation causes injury by damaging or killing the tiny living cells of which our bodies are composed. The atoms of elements—such as hydrogen, oxygen and carbon—inside the body cells are bound together electrically in groups called molecules. When the particles or rays of nuclear radiation strike a cell, they disturb the electrical balance of the molecules and break them up. The amount of overexposure determines the amount of damage caused. In a way, exposure to radiation is like exposure to heat, except that radiation cannot be detected by any of the five senses. People live safely with heat—and with nuclear radiation—by keeping the rate of exposure low enough to be harmless.

Nuclear radiation does different things depending upon what kind it is and upon the amount to which a person may be exposed. Everyone is exposed to some natural radiation all the time and so far without detectable damage to health. But overexposure to radiation can cause injury. Repeated overexposure has been known to result in cancer. As a parallel, the sun's ultraviolet radiation only gives people a "tan" in moderate exposure, but overexposure can cause severe sunburn. Some kinds of radiation can penetrate inside the body and overexposure to these can damage the vital organs and make a person ill, or in cases of extreme overexposure, cause death. If a person were to get too much radioactive material inside his body through the mouth or nose, or through a break in the skin, and if it were to stay there, it could cause illness or death.

Radioactivity is a natural property of many materials like uranium and radium that are found almost everywhere in the earth. Radiation constantly strikes the earth, too, from outer space in the form of cosmic rays. Man-made devices such as x-ray machines give off beams of radiation. So do the cyclotrons, known as "atom smashers." The machines used in the atomic energy program, not only those like the cyclotron but also nuclear reactors, are sources of radiation and can make many ordinary materials radioactive. It is this ability of nuclear reactors to make ordinary materials radioactive that gave rise to the first general use of radiation in its peaceful applications.

Now, civil defense authorities recognize that exposure to certain amounts

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# CIVIL DEFENSE FIRE-FIGHTING

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vided as quickly as possible since the most effective fire fighting is done in the first hours.

The use of explosives to destroy buildings and create firebreaks in the path of a spreading conflagration has been repeatedly tried, as in the San Francisco fire, but it has rarely, or perhaps never, been successful. In some cases it has actually spread the fire to the buildings which were meant to be protected. The Germans considered it on several occasions but abandoned the idea as impractical because of (1) the speed at which the fire travelled and its frequent change in direction made the selection of suitable locations impossible and (2) the large force of men experienced in explosive handling that would have been required and the difficulty of bringing up and placing sufficient explosives at proper places in time to be effective. In retrospect they feel that the blasting of artificial firebreaks is not sound practice and this opinion is confirmed by British fire department experience.

Because the central areas of the great fires in Germany and Japan were beyond the capabilities of the fire departments, it should not be assumed that the firemen fought in vain. On the contrary, outside the perimeters they established they were able to perform useful service in fighting individual fires. As always, they found that it was necessary to work inside buildings and attack fires floor by floor. Although sometimes the individual fires outnumbered the pieces of apparatus by as much as 90 to one, the firemen got results. Individual buildings, blocks, whole districts were saved which otherwise would have been destroyed and tens of thousands of people are indebted to the fire department for their homes—and perhaps their lives.

The fire companies have special virtues which are not needed in their peacetime operations and consequently may not be generally appreciated. They are nuclei of trained and disciplined men with know-how and equipment around which volunteer help can rally. Willing amateurs who make a nuisance of themselves in peacetime when the professionals are working on a restricted fire will be invaluable as supplemental manpower after an attack when fires will have to be fought around-the-clock under very difficult conditions. Extra help will be especially useful in doing the chores associated with rubble clearing in rescue

work and to open streets. The German experience was that much of the initial effort of the fire companies was directed towards saving lives until perimeters could be outlined and a fire plan was formulated.

Emergency dose-rates of radioactivity need to be established for firemen and each will have to wear a dosimeter so he can tell how much radiation he has had. After receiving the allowable dose, these men will have to get into cover and be replaced by newcomers. Therefore the fire chief must constantly keep in mind the approximate dosages of his men and hold some unirradiated professionals in reserve—otherwise he will suddenly run out of experienced men who can operate the equipment and direct operations.

The question of what fire companies should do upon receipt of a warning signal is a problem of the city fire department which demands immediate attention. Where should the equipment be located; how should the companies be organized?

The general program should be to disperse the fire companies in such a way as to reduce the chance that all the equipment would be rendered inoperable by the burst of a single bomb. This does not mean that all companies should leave the densely populated and built-up areas near the city center but rather that they would be spread as thinly as practicable throughout the target area. No location within or nearby the area can be described as "safe" but if some of the equipment now highly concentrated is redistributed around the periphery it can undoubtedly be pressed into more efficient use after an attack. This does not imply that these companies should evacuate the city at high speed after a warning has sounded but suggests that they might be re-deployed to more effective positions and remain ready to protect the city from fires which may be started by the usual every day causes. The suggestion that all fire companies evacuate seems to imply that a decision has been made, based on the assumption of enemy objectives and actions, to abandon the city.

Such re-deployment practiced for civil defense purposes will not necessarily materially reduce the total number of fire companies in the central portion of the city—however in many old cities where present fire stations are not well located with respect to the peacetime or wartime hazard this would cause a good deal of thought

to be given to this important matter. The result might be the construction, over a period of years, of new and more efficient fire stations equipped with shelters. Redeployment should be to positions where the firemen can take shelter and maintain some communications; those companies which do not move should be provided with shelter close at hand. Some means of fire watching and reporting must be provided for the time when people are in shelters and telephone switchboards are deserted; perhaps industrial television cameras mounted on high points would be worth experimenting with for this purpose.

Probably the most difficult problem facing the regular fire departments is that of organization. In a civil defense emergency it is necessary for all the fire companies in a metropolitan area to work under a unified command and most fire officers realize this. However such an organization cannot be expected to exist merely by declaration; it must be tested in a shake-down period if it is to be effective. Once the organization and relocation have been placed in effect they will need to be permanent for the duration of the emergency.

## Welcome! New Directors

### WESTERN AREA

Capt. Parker Brubaker, 513 Old Farm Road, Pittsburgh, Pa.; Mr. James Steele, Hyndman Street, South Connellsville, Pa.; Mr. John Burns, 172 Chestnut Street, Muse, Pa.; Rev. Raymond Thorpe, Main Street, Atlasburg, Pa.; Mr. Joseph Casey, 453 Beechwood Ave., Carnegie, Pa.; Mr. Renato Porreca, Box 749, New Salem, Pa.; Mr. Albert Bowdish, Brookville, Pa.

### CENTRAL AREA

Mr. C. V. Long, E. Waterford, Pa.; Mr. John Clark, Mexico, Pa.; Mr. J. Leonard Reeger, Box 48, Coalport, Pa.; Mr. Eugene Mellott, Jr., Dudley, Pa.; Mr. Ferdinand Cattellier, RD 4, Wellsboro, Pa.

### EASTERN AREA

Mr. Joseph Lockwood, Tresckow, Pa.; Mr. David E. Wagenseller, Jr., 1403 Clayton Road, Lancaster, Pa.; Mr. Paul Strausser, 156 Old Mill Road, RD 1, Easton, Pa.; Mr. Harold Steussing, 417 Highland Ave., Chinchilla, Pa.; Mr. Kenneth Monington, RD 3, Honesdale, Pa.



## Medical Civil Defense

THE CHAIRMAN of the National Defense Committee of the Pennsylvania Nurses Association, Miss Elizabeth Eicherly, Captain, A. N.C., USAR, by invitation, presented as part of the program "Nursing in the Medical Management of Mass Casualties" conducted in September by the Walter Reed Army Institute of Research a most stimulating and well received paper on "The manner in which the State of Pennsylvania is attempting to prepare nursing service personnel for mass casualty care."

Copies of this presentation may be obtained by interested individuals on request from the Department of Atomic Casualties Studies, Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington 12, D.C.

### Philadelphia Publication

A NEW PUBLICATION for civil defense, entitled "The Defense Post" recently made its first appearance in Philadelphia. It is edited by Joseph R. Costa, Public Affairs Director for the Philadelphia Civil Defense Council.

A three-column, four-page, printed, glossy-papered publication, "The Defense Post" will be issued on a quarterly basis. It is well illustrated. Publication office will be the administrative office of the council at 121 North Broad Street.

### THOSE RAYS

*(Concluded)*

of ionizing radiation will be accepted in some operational situations on a calculated risk basis along with other hazards of war.

All unnecessary exposure, naturally, should be avoided. In training, no more than the maximum permissible exposure of 0.3 roentgens per week should be given trainees, preferably, less. In "emergency" operations, FCDA advises there should be no hesitation in an exposure to the entire body of 25 roentgens in a single day.

In civil defense work it may become necessary to make decisions regarding repeated exposures. The following rule of thumb has been given: Exposure of 25 r per day at weekly or longer intervals for a total of eight exposures (200 r) may be experienced without serious loss of efficiency due either to illness or significant general deterioration in health and ability. Before each probable re-exposure, the degree of radiation damage already produced and that to be expected should be evaluated by a qualified person.

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## TWX FACILITIES IN FEDERAL

## CONTRIBUTIONS PROGRAM

A MEMORANDUM from the Region 2 office, FCDA, describes some of the procedures to be followed in requesting a TWX Communication System for civil defense under the matching fund program.

The memorandum emphasized that each approval for TWX is on an individual basis. Each installation in the proposed system, it was stated, must be justified as being necessary for civil defense over and above the normal every-day need for such facility. No installation may be approved where it parallels or replaces an existing system and will be approved for installation only in designated civil defense control centers. Recurring cost requirements, the memorandum declares, will be eligible for matching funds only in the current fiscal year and may not include costs over and above basic rental charge plus cost of installation.

Applications for TWX facilities should, of course, be processed under the communications program. Part III of the application should include a narrative "justification" in the form of a communications plan. The plan, FCDA states, shall be supported by a map or sketch showing the location of each facility requested and such other data as will clearly indicate the scope of the system.

Among points to be stressed in the plan, according to FCDA, are those following:

"Address or other location of each proposed TWX installation, name of civil defense or other agency responsible for its operation, and such other pertinent information to justify the need for the facility for civil defense purposes.

"If used for disseminating Continental Air Defense Warning alerts and/or other flash type CD information, a 'fan-out' procedure shall be shown.

"List other communications facilities available for CD at each proposed TWX location, i.e., State Patrol radio, Sheriff's radio, Police radio, RACES, telephone and other wire services.

"State extent of normal day-to-day use of the proposed equipment, if any.

"Show which installations will be covered 24 hours every day and those covered only part time. Indicate hours covered at each installation.

"All other information that is pertinent to justify the installation as necessary for civil defense.

"A statement to the effect that the proposed installation is necessary for civil defense over and above the normal every-day need."

### IN A DAY'S WORK

An elderly gentleman gave a new reason recently when applying for enrollment in civil defense at an Eastern county office. He said, "I'm out of work now and I understand you get compensation when you're in civil defense."

He walked out, quite disappointed—and not enrolled—when the provisions of Act 135 were explained.

And some folks say there will be no rumors if and when a national emergency comes?

Kindly advise promptly of changes of address. Address: THE KEYSTONE DEFENDER, State Council of Civil Defense, Quakertown, Penna.